

TOYA151.001APC

PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Tada, et al.
App. No	: 10/580,882
Filed	: May 26, 2006
For	: EXTERNAL PREPARATION FOR SKIN
Examiner	: Carter, Kendra
Art Unit	: 1617
Conf No.	: 7132

## DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Dear Sir:

I, Akihiro Tada, declare as follows:

1. I am an inventor in the above-identified application. I am familiar with the Office Action of June 9, 2009 and the JP11-246339 reference (Suzuki, et al.).
2. Suzuki, et al. do not disclose the amount of centaureidin in the *Achillea millefolium* extract used for their skin preparation. Suzuki, et al. only disclose that the *Achillea millefolium* extract was obtained from a commercial source.
3. The content of centaureidin in commercially-produced extract of *Achillea millefolium* was determined as follows. 50 g of dry matter from two kinds of commercially purchased plant bodies of *Achillea millefolium* (A and B) were each extracted with 500 ml of 80% ethanol aqueous solution. Generally, commercially produced extracts of *Achillea millefolium* other than A and B are also extracted using the same protocol. The centaureidin content in these extracts was determined using HPLC. HPLC conditions were as follows:  
Column : TOSOH TSK gel ODS-80Ts (4.6 x 250 mm)

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Elution solvent: Acetonitrile: 0.1% phosphate buffer (40:60, v/v)

Detection wavelength: 254 nm

4. The results are shown in the attached HPLC traces and indicate that commercially produced *Achillea millefolium* plant bodies contain 0.1% or less centaureidin by mass. Based upon my analysis and the information provided in the Suzuki, et al. reference, the preparations of Suzuki, et al. contain  $1 \times 10^{-7}$  to 0.02% by mass of centaureidin. The concentration of centaureidin in the preparations of the invention is much higher, at least 0.035%.

5. We have found an unexpected benefit to using a higher concentration of centaureidin in the range of 0.035% to 2.0% in our preparations which include 4-n-butyl resorcinol in a concentration of 0.05 to 5% by mass which is that cytotoxic effects of 4-n-butyl resorcinol are reduced. This effect was not expected from Suzuki, et al.

6. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States codes and that such willful, false statements may jeopardize the validity of the application or patent issuing therefrom.

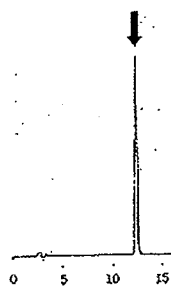
Dated: July 31, 2009

By: Akihiro Tada  
Akihiro Tada

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[Results]

STD:1%sin.



commercial product A      commercial product B

